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ABSTRACT

One of three handbooks dealing with pottery traditions from around the world, this packet draws together information about historical, ethnographic, and pottery traditions of Peru. The first of 13 brief subsections focuses on Peru's land and people. A presentation of a potter's history of Peru is followed by a discussion of the Chavin Cult (800 B.C.), known as the "period of the master craftsmen." Subsequent sections focus on characteristics and pottery styles of the Moche culture, the Nazca (100-800 A.D.), the Huari Empire (700-1100 A.D.), the Kingdom of Chimu (1100-1470 A.D.), and the Inca Empire (1430-1532 A.D.). A brief word about the Spanish conquest of Peru is followed by an annotated list and illustrations of interesting pottery forms. The next section introduces readers to pottery technology, including sources of clays and basic techniques used in pottery making such as block modelling, moulding, coiling, stamping, smoothing, painting, and firing. An examination of modern Peruvian folk pottery includes a look at traditions surrounding Peru's pottery, and differences between north coast and south coast pottery methods. The final section describes Spanish influences on Peruvian pottery. The first of three appendices lists Peruvian foods and recipes, followed by a list of resource materials and a workshop section, which includes step-by-step instructions for making a stirrup pot. The document concludes with a student map and worksheets which demonstrate techniques and ideas for working with clay. (LH)

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Pottery Cultures

POTTERY FROM PERU

A Handbook

ETHNOGRAPHIC RESOURCES
FOR ART EDUCATION

Pottery Cultures

POTTERY FROM PERU

A Handbook

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1981

POTTERY FROM PERU

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PREFACE

This pack entitled 'Pottery from Peru' is the product of the Ethnographic Resources for Art Education project and is one of three dealing with pottery traditions from around the world.The other two are 'Ashanti and Hausa Pottery' and 'Pakistani Pottery'. Each pack (which may be used independently)draws together information about historical,ethnographic and pottery traditions of a particular culture,in this case a variety of Peruvian cultures.The pack contains a handbook,notes on techniques of manufacture and a separate group of worksheets for junior use (labelled A) and the more advanced (labelled B).There are available as an optional extra a set of slides of pottery described in the book.

The intention of the programme is to present in a readily accessible form ceramic traditions,techniques and achievements from a range of cultures.We hope that an introduction to these pottery cultures will both provide interest to your ceramics programme and suggest some alternative methods of using clay.We also hope that this programme will contribute to the fostering of a multi-cultural approach to the visual arts and crafts because we firmly believe that familiarity with other traditions enriches the potential for innovation in artistic as well as cultural terms within our society.

We hope that you will find this pack sufficiently flexible to satisfy your own particular needs.We would be most appreciative of any comments you might make about the pack's reception and in particular any suggestions for improvement.

Nick Stanley

for
Ethnographic Resources for Art Education.

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C. Donnan ' Moche Ceramic Technology ' Nawpa Pacha 3 pp115-38
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M.N.A.A. Lima Peru (loanr

M.N.A.A. Lima Peru (loaned by C.B.M.A.G.)
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We are greatly indebted to the staff at the Department of Ethnography in the British Museum, and at their stores, for their kindness and assistance during the research for this pack, and for giving us access to all the study facilities available. In particular we would like to thank Miss Elizabeth Carmichael and Mr. Daniel Barrett for their advice and kind assistance.

Most of all we are grateful to Miss Jane Pierson-Jones, Keeper of Archaeology at the City of Birmingham Museum and

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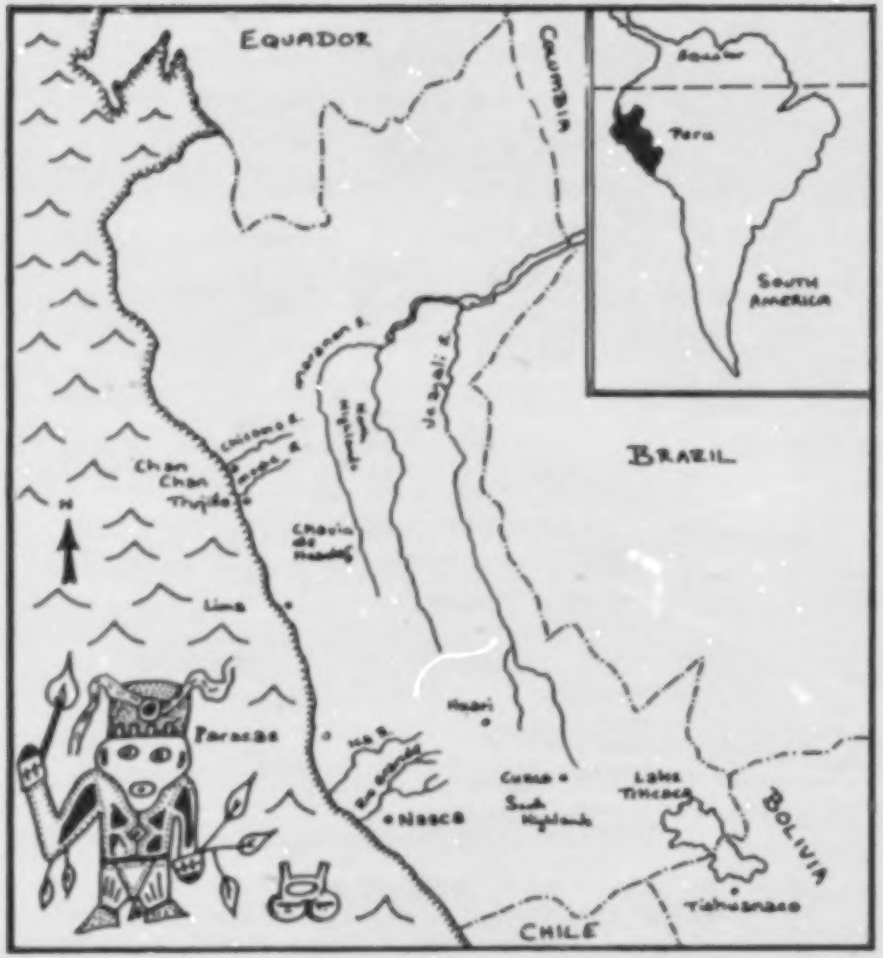


PERU

LAND AND PEOPLE

Peru is a country of 1.3 million square kilometres, around five times the size of Britain. One side borders the Pacific Ocean and elsewhere it shares a border with Ecuador, Columbia, Bolivia and Chile.

It is a country of many contrasts, of desert, forests, mountains and fertile valleys, of wealth in the towns and cities of the coast and highland valleys, and of great poverty among the people of the mountain villages.

Spanish is the official language of government, education and commerce, but it is spoken by less than two-thirds of the population of 14 millions. The remainder, predominantly Andean peasant farmers, speak only Quechua (once the official language of the Inca Empire), or one of its dialects, although in the highland cities and towns many speak both languages.

Along the coastline runs a narrow strip of sandy desert, with little rainfall, punctuated by seasonal rivers flowing from the Andes to the ocean. Here crops are grown in the fertile river valleys, and several important towns, including the capital city, Lima, have been built. Here too have been found some of the earliest sites of human occupation in Peru, where Nomadic stone age hunters and fishermen first began to cultivate the land. Among crops grown in these regions today are cereals and sugar cane, cotton, chili peppers, several varieties of beans, sweet manioc, peanuts, sweet potatoes, barley, quinoa (a kind of rice), tree tomatoes, cucumbers, squashes and maize. Many of these have been cultivated in Peru since around 1700 BC.

Inland, the snow capped peaks of the Andes rise out of the desert, reaching altitudes of up to 7000 metres above sea level. In these regions there are three months of heavy rain each year, from November to February. The high slopes of the Andes, up to 4000 metres above sea level, are inhabited and cultivated by peasant farmers living in small villages. Above 4500 metres the land is good only for pasturing sheep, alpaca and llamas.

Most peasants high up in the Andes succeed only in eking out a bare living from their land. Very little surplus is produced and sold to buy necessities and luxuries which they cannot produce.

East of the Andes the land slopes down into the tropical rain forests of the River Maranon.

Modern Peruvian Villagers

A POTTER'S HISTORY OF PERU

The earliest pottery remains in Peru date from around 1800 BC. Before that the earliest humans had evolved a subsistence pattern based on hunting, fishing on the coast and plant gathering, with seasonal migrations. They lived an unsettled existence in either open air camps or natural rock shelters.

In time the population began to cultivate the land and began a settled pattern of existance based on a strong dependence upon domesticated plants and animals. The llama and alpaca, guinea pig, duck and dog were all domesticated and plants such as quinoa, potato, gourds, squashes, chili peppers, cotton, beans, guava, tomato and lucuma grown. Agriculture was limited to areas watered by rivers or subsurface water, and thus the main areas of population began to centre around the river valleys of the coastal desert and highlands.

At first gourds, whalebone and basketry formed the only containers but by 1800 BC basic handle-less pottery began to appear, at first plain, and later decorated by 'negative painting'. This process involved the placing of a design upon a pot in wax, grease, clay or other impermeable material, and then covering the pot with paint, smoking it, or dipping it in dark pigment. When the wax was removed, the design remained as a lighter area.

In the highlands the first stirrup pottery appeared, together with tripodal and tetrapodal vessels. Decoration became more complex using incised decoration filled in with red, white or yellow pigments after firing, or using excision techniques. Burnishing with smooth pebbles on the leather-hard pot before firing was also introduced to give a smoother finish.

THE CHAVIN CULT 800 BC

Around 800 BC a highly developed, monumental style of art, together with the appearance of great magico-religious centres spread over most of the central Andes, associated with a cult now known as Chavin, after the ruins of Chavin de Huantar. This culture has features in common with that of the Olmecs of the same period in central America, and may have spread from the north.

Chavin Pottery Vessel
decorated with
Zoned Rocker Stamping

Chavin pottery used little colour, mainly red or graphite, and achieved contrasts by means of incision, zoned rocker stamping or modelling techniques. The motifs on pottery reflect those used in stone carving, of birds or feline representations, and some plants. On the north coast of Peru, in the Chicama valley the stirrup spout was used on flat based globular jars. Sometimes, modelled figures of animals, sea creatures, houses and other cultural elements were substituted for globular bodies. Other pottery shapes include flat or straight sided bowls, bottles with long necks and a variety of plates, bowls, vases and other vessels for ceremonial and domestic use.

Dwellings were mostly of loaf shaped adobe brick, with reed roofs, and the economy was based on agriculture, fishing and hunting. Already cultivated by this time were most of the plants in common use at the time of the Spanish conquest.

'Period of the Master Craftsmen' 100 BC - 700 AD

The late pre-Christian era was characterised by a marked regional development. Agriculture was by now central to the economy, and settled communities grew up around the cultivatable areas. Great advances were made in agricultural techniques, irrigation and fertilisation were developed, while hunting and fishing took secondary roles.

During this era the Moche, Gallinazo, Lima, Nazca and Tiahuanaco cultures achieved a level of creativity in ceramics, sculpture and other crafts that is considered to be the pinnacle of pre-Columbian Peruvian art.

The regional differentiation reflects the special environment of the Andean valleys and basins. On the coast, adjacent valleys became incorporated into regional entities, delimited by their proximity to rivers. In the highlands, cultural units corresponded to drainage areas such as Lake Titicaca and the River Maranon.

The Moche culture sprang up in the valleys of Moche and Chicama on the north coast, while Nazca flourished similarly on the south coast. By Lake Titicaca in the central highlands the Tiahuanaco culture reached its climax, and the Waru culture developed at Cuzco. Many other cultures grew up at this time, each strongly individual in artistic style, but for brevity, we will consider only Moche and Nazca, perhaps the best known.

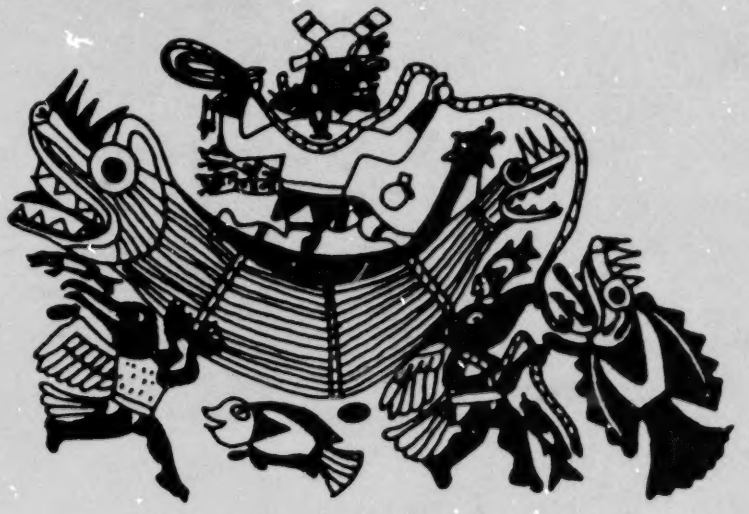
MOCHE

This culture, also known as Mochica and Early (Proto) Chimu, is named after a valley on the north coast, south of the modern city of Trujillo. The adjacent Chicama valley was in fact the centre of cultural development.

Pyramids and ceremonial centres were built in all valleys under Moche rule. Pyramids, frequently represented on pottery, were usually rectangular and occasionally circular, built of adobe brick. They were stepped or spiral. Two examples, Huaca del Sol and Huaca de la Luna, are variously 50 metres and 21 metres high. They had structures on the summits, with large rooms, often ornamented with beautiful frescoes. Huaca de la Luna in particular has a fresco known as 'The Rebellion of the Artifacts', in which pottery vessels are depicted in attitudes of war and defiance.

The Moche themselves lived in houses made from adobe, and lived traditionally by agriculture, supplemented by hunting, gathering and trade. Their technology was advanced including complex irrigation systems and canals several kilometres long, aqueducts and great reservoirs. They also travelled hundreds of kilometres to collect guano for use as fertiliser. Despite all this sophistication, however, their farm implements were simple digging sticks and hoes, and their great adobe structures were made without the aid of the wheel, not introduced to the Americas until the advent of the Spanish in the sixteenth century.

The daily life of the Moche, their pastimes, rituals, and clues to their social structure are pictured with great clarity in and on their pottery. This was of great technical excellence, and, at its height, of tremendous artistic sensitivity. Pottery was used to reflect all life forms, as well as for cookery and domestic use, although more decorative pottery had little practical purpose. Most of the Moche pottery known today was found as grave goods, and little decorated or moulded pottery has been found at sites of occupation. Stirrup vessels, for example, are not strong enough to hold any weight of water.



Moche stirrup pot design showing a deity on a reed raft on a fishing expedition.

Pottery themes will be discussed later, but included are anthropomorphic, phytomorphic and architectural pottery, portrait vessels, musical instruments and painted vessels depicting scenes of ceremony, battles, farming, fishing, hunting and all aspects of daily life.

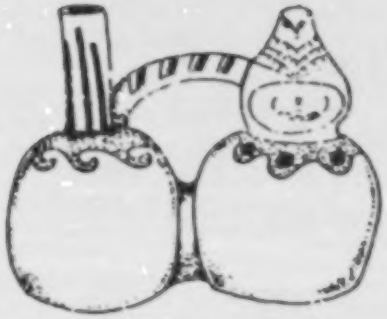
Moche society appears to have been strongly hierarchical; pots depict elaborately dressed men such as hunters accompanied by beaters, or carried in litters. Such menials are shown naked or dressed only in loin cloths, and may have been slaves. Convicts and prisoners with hands tied and ropes around their necks are common in Moche pottery.

At its peak the Moche culture dominated most of the north coast of Peru. Judging from the prominence of war scenes and warriors on Moche iconography, surrounding valleys were controlled by force rather than, as seems to have been true of the earlier Chavin cult, by religion.

The Moche appear to have worshipped many gods including one called Ai-Aepec (possibly a 'creator' god), the sun, the moon and many demonic animals with human traits, including crabs, owls and jaguars. Maize and beans were also anthropomorphised.

Other crafts reached a high level of development besides pottery; weaving, metal work, and carving in wood and shells. Nevertheless, despite a highly sophisticated social and cultural pattern, no form of writing existed.

Pottery forms included the stirrup vessel, bell-shaped basins, cups and popcorn toasters, besides cooking, storage and other domestic pottery forms.



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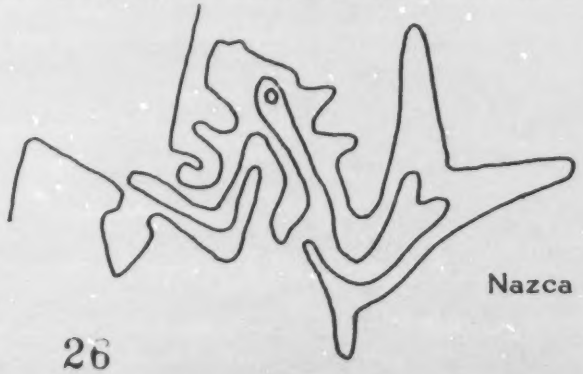
MOCHE POTTERY SHAPES

NAZCA 100 - 800 AD

The Nazca culture occupied a similar position on the south coast to that of the Moche in the north. Their basic way of subsistence was similar to that of the Moche, and like them they built stepped and circular pyramidal temples, lived in adobe dwellings and built irrigation canals, some underground.

Their religion is thought to have involved rituals concerned with agriculture and with predictions of rains and drought. Much of their pottery shows agricultural deities carrying maize and other plants. Most remarkable of all are the gigantic complexes of designs marked on the Pampa ingenio in the Nazca valley, which cover an area of 500 square kilometres in a desert covered in dark reddish gravel. These designs are formed by removing the patinated surface stones to reveal the yellow-white layer beneath. Designs include triangles and trapezoid forms, straight lines and zig-zags several kilometres long, and gigantic representations of animals and plants. One spider measures nearly 50 metres across. Other designs include a dolphin, fish, parrot and monkey, and it has been suggested that they represent constellations involved in astrological predictions of the weather.



Nazca desert lines

Nazca social structure appears initially to have been based on a religious hierarchy, later replaced by a military one. No slaves appear to have existed.

Pottery is best known for its polychrome painting in up to twelve colours. Painting was pre fired and used mainly mineral non-fugitive pigments. Principal colours used include red, white, black, buff, orange, brown and grey. Designs were sometimes delimited by very fine incisions and later outlined in black, over a red striped surface.

Nazca potters expressed great realism in depicting animals and plants of all species, including chili peppers, lima beans, maize, jaguars, deer, foxes, rats, monkeys, lizards, spiders, pelicans, llamas, fish, humming birds and porpoises.

Deities represented include anthropomorphised feline gods and a 'horrible bird', as well as agricultural deities.

Later Nazca pottery tended towards abstraction and 'mythification' of figures earlier treated naturalistically. Vessels became more angular and taller, while depictions of trophy heads demonstrate the increased militarism of the culture.

Typology

Pottery with double spout and bridge handles, bowls with curved walls, straight sided and round bottomed plates, shallow bowls with S shaped walls and tall beakers.

Textile manufacture and other crafts display a similar level of development as found in Moche. Musical instruments included panpipes made of pottery and cane, pottery drums, trumpet shaped horns and rattles.

Nazca harvester designs

THE FIRST EMPIRES

HUARI (WARI) EMPIRE 700 - 1100 AD

The Huari empire swiftly conquered all of Peru except the southern most coast, and established a strong administrative system.

This central Andean Empire had its capital at Wari, in the southern highlands, and was contemporary with the Tiahuanaco Empire near Lake Titicaca, now in western Bolivia. Many of its cultural traditions were derived from Tiahuanaco, which was a great religious centre and place of pilgramage, and copies of Tiahuanaco stone sculptures are found at many Huari sites.

Its economy was that already established pattern in Peru of agriculture, herding and hunting, although Wari itself, receives rain for only three months of the year, and its site is devoid of water. An aqueduct, together with canals and channels were cut in the rock to bring water from ten kilometres away.

In its social organisation Huari was a complex society, with centralised government by a noble warrior class. Later, the Chimu kingdom and the Incas were to adopt their administrative systems. Commerce was another factor in the economy, and trade was probably carried on principally with the Tiahuanaco empire in Bolivia.

Religion derived from the Tiahuanaco divinities, was both an element of control and conquest. The Huari was a despotic regime which attempted to destroy regional cultural differences, and which incorporated new ideological, economic and settlement patterns.

BEST COPY AVAILABLE

In particular the Huari Empire caused the urbanisation and secularisation of earlier religious centres, and introduced large planned settlements of houses, plazas and streets surrounded by windowless high walls with few entrances. The Chimu city of Chan-Chan was founded in this period. Villages were abandoned and population concentrated in particular areas, causing greater pressures on agriculture and water supply.

There was great emphasis on the conservation and distribution of water to ensure maximum use of cultivable land. Irrigation by complex patterns of ditches was intensified.

In pottery, Moche ceremonial types began to be replaced by Tiahuanacoid ones, while polychrome painting replaced bichrome, and stiff multi-coloured designs were substituted for three dimensional modelling and scenic painting. Domestic pottery, however, everywhere remained unchanged, although black ware began to replace red-fired pottery and more pottery was made by the mould method. From this period onwards, mass production of mould made pottery for both ceremonial and domestic use became common, with a certain resulting decline in quality and artistic achievement.

KINGDOM OF CHIMU 1100 - 1470 AD

The sudden decline of the Huari Empire for no presently known reason disrupted the unity of the Central Andes and permitted the resurgence of local kingdoms and cultures.

Chimu culture appears to have been a gradual amalgam of Huari and Moche elements, economic, social and cultural.

Chimu pottery vessels

In religion, divinities derived from the Moche beliefs. Aiapaec (the creator) and Si (the moon) were principal deities. The moon was more powerful than the sun as it was visible night and day. Eclipses were thought to be battles between the two gods.

In art, and especially pottery, Moche forms were revived. Most Chimu pottery is black and metallic in appearance, through a combination of smoking and burnishing. Both domestic and ceremonial vessels were mould made. Huari polychrome decoration retained a limited popularity, together with their pottery shapes. The most striking resurgence of Moche styles, however, lay in the return of the stirrup spout. Chimu stirrup vessels are distinguished from Moche by the presence of a small figure, often a monkey, at the junction of the spout and the stirrup.

Chimu is the ancient name for the valley of Moche, at the extreme north west of which lie the remains of the great city of Chan-Chan founded by the Huari which became the capital of the Chimu Kingdom.

THE INCA EMPIRE
EMPIRE OF TAWANTINSUYU
INCA EXPANSION 1430 - 1532

In 1438, the Incas whose centre was Cuzco in the southern highlands, began a period of rapid expansion under their ninth ruler, Pachachiti. Chimu, among other states was rapidly absorbed into the complex military, social and administrative system which the Incas created. To some extent they based their control on the systems set up by the Huari empire, controlling the movement of people, the road system and the food supply.

Within a hundred years they controlled a territory which included Ecuador, Peru, Bolivia, north west Argentina and northern Chile from their capital at Cuzco. Their leaders were called Incas, who claimed descent from the god Inti (the sun).

Their pottery included several unusual forms; the aryballus, a storage vessel similar in shape to the Greek amphora, a shallow circular plate with a handle on one side and an animal head or ornament in a double arch on the opposite margin; curved bowls with flat horizontal rims, chalices, toasters and cups with horizontal strap handles. Painted decoration was generally in black, white, red and orange in geometric and occasionally in naturalistic designs. Outside Cuzco their effect on regional pottery styles was minimal and at Chimu, for example, restricted to the manufacture of a few aryballoi.

THE SPANISH CONQUEST

The Spanish conquest of Peru by Pizarro, and the trial and execution of the Inca Atahualpa has been well documented elsewhere. Their control was fairly easily established in a state with such strong existing administrative systems, and, in many respects the Spaniards adopted the Inca administrative framework for things like the collection of taxes.

Spanish rule ended in 1824 with their overthrow by Simon Bolivar. Since then Peru has been controlled by successive dictatorial regimes and military governments.

Francisco Pizarro

INTERESTING POTTERY FORMS

Stirrup Spout Bottles
Consist of a chamber with a hollow handle and a spout set on top in the form of a stirrup. A very common type of pottery. Painted scenes include battles, hunting and fishing, farming and mythological themes.

Portrait Vessels
Not always with stirrup spouts, sometimes open vases of tremendous vitality and individuality, almost sculptural in technique. Heads on average are slightly more than half life size.

Zoomorphic Pottery
Terrestrial animals, sea creatures and birds; llamas, dogs, fish, crustaceans, frogs, condors, parrots, serpents etc. Tremendous variety reflecting nature.

Phytomorphic Pottery
Most plants cultivated and eaten; gourds, squashes, tree tomatoes, potatoes, lucumas, peanuts, maize etc.

Figure Vessels
With and without stirrup spouts. Heads are usually disproportionately large and show individuality like portrait vessels. Wide range of physical types, some showing deformities and diseases. Some women, many warriors holding shields and clubs, with helmets of wood, leather and copper and with ornamental ear protectors. Drunks occasionally appear on Moche pots.

Architectural Pottery
Pyramids, both circular and rectangular, surmounted by adobe structures with sloping roofs or open shelters. Adobe houses.

Musical Instruments
Pottery trumpets, rattles, pipes and drums.

Double Chambered Whistling Bottles
Consist of two chambers, one which has a spout at the top, while the other generally has a bird with a whistle in its beak, at the top of the chamber. The two chambers are joined together by a bridge like handle so that when water is poured into the spout and the vessel tilted, air is forced through the mouth, producing a whistling sound.

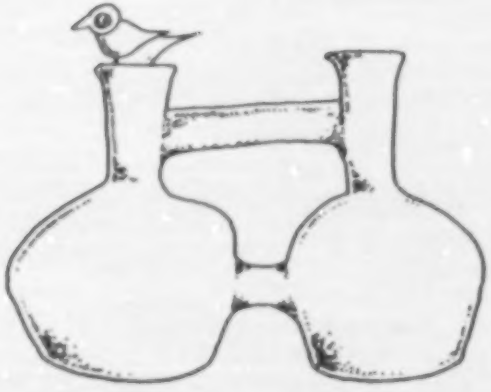
Toasters
Dipper shaped vessels with rounded inverted rims. Possibly used for toasting corn kernels to make popcorn.

Inca Aryballus
A water jar made to be carried on the back by means of a rope passing through the handles and over the nubbin at the base of the neck.

Inca aryballus

Nazca drum

Inca poccha drinking vessel



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Chimu-Inca whistling pot

Moche portrait vessel

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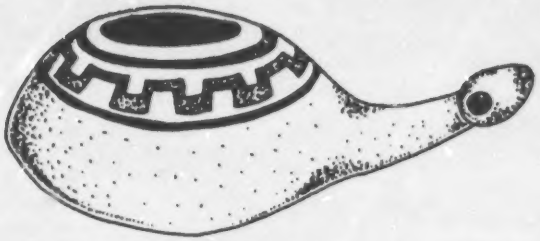
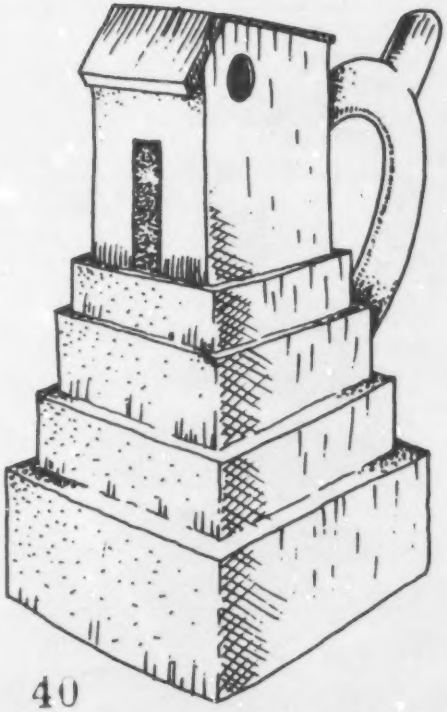
Potato pot

Toaster

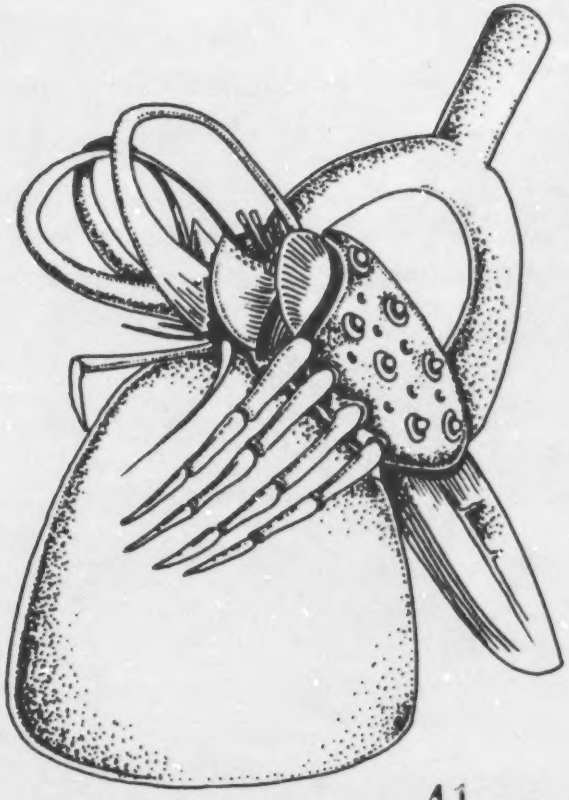


Stirrup pot



Pyramid pot

Lobster pot



POTTERY TECHNOLOGY

It is difficult to show how a pot was made simply by looking at the finishes article, since many clues to manufacture will have been erased. In the case of the pre-Columbian pottery from Peru radio-graphic analysis has been done in the British Museum on some stirrup spout vessels, and experiments into Moche pottery manufacture methods have been carried out by Christopher Donnan, an archaeologist at the University of California, Berkeley, USA. A small group of potters headed by Phil Slight of Birmingham Polytechnic School of Art Education have been investigating the practical applications of Donnan's researches for modern potters, and their results have been included in the Workshop section of this booklet.

Clays

Exact sources of clays for making pre-Coumbian Peruvian pots are not known, although possible sources include small ponds and caves. Clays used include kaolin, and were mixed with fillers of sand, mica and quartz crystals, volcanic ash, crushed pottery and shell fragments. Clays would have been transported by llamas.

Manufacture

There was no potters wheel until after the Spanish came and introduced them. Three basic types of pottery making have been suggested: block modelling, coiling, and moulding.

Block Modelling

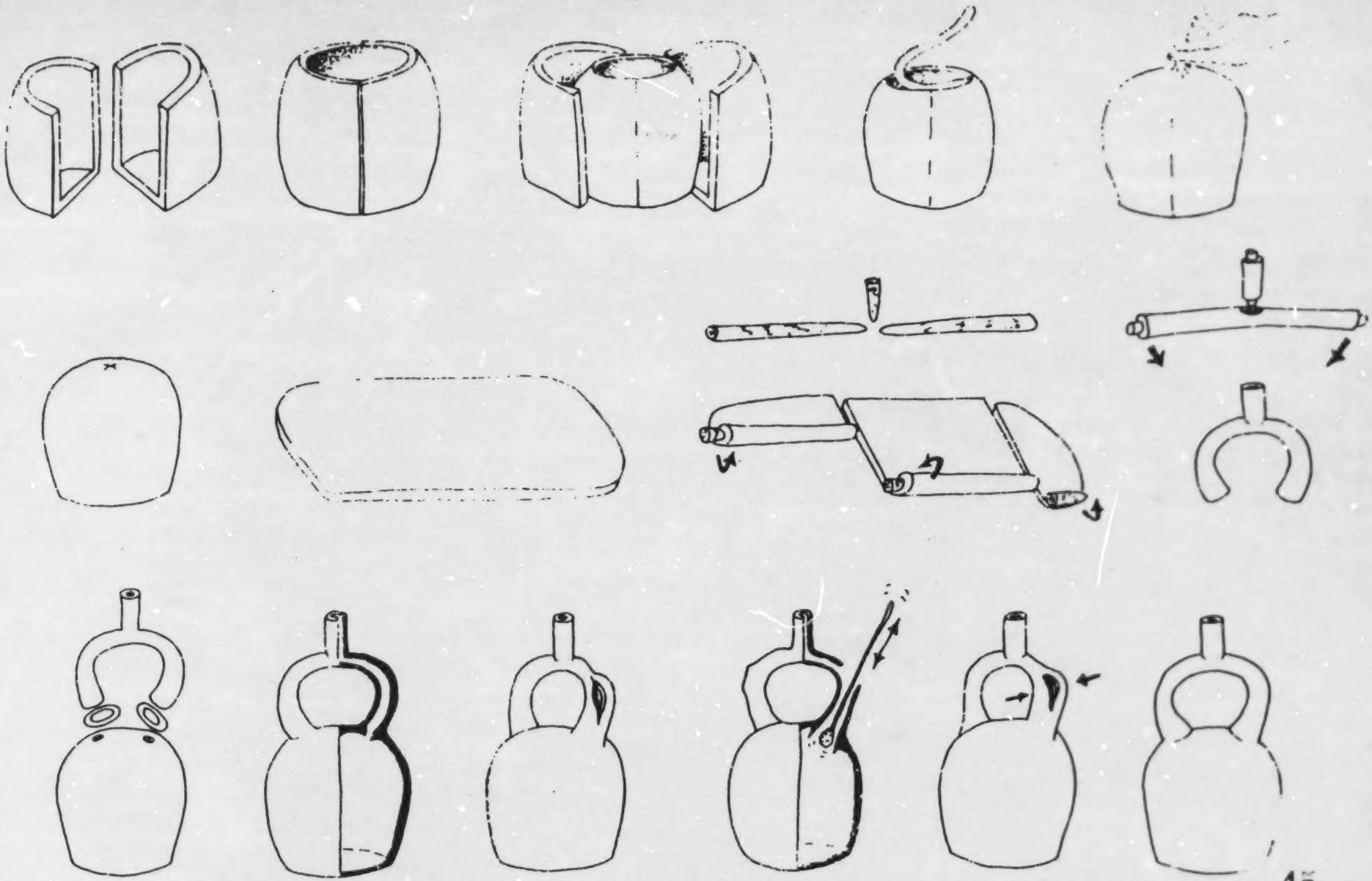
The potter hollows out the centre of a clay ball and thins the sides by hand, moving backwards around the pot as he works. Sometimes only small sections are made at a time and then assembled later. This method was widespread in Peru, and was used for domestic and ceremonial pottery, except on the north coast where a combination of moulding and coiling was used for ceremonial pottery.

Moulding

Moulding was found on the north coast and in central Peru. A combination of coiling and moulding was used for ceremonial pottery on the north coast from Chavin times, and for all pottery from the Chimu period onwards. This technique made pottery that was both light in weight and relatively resistant to breakage during firing. Moulds can be made from existing vessels by pressing clay around the pot and removing it in two halves as they dry, or from objects such as shells and maize.

Moist clay could be pressed into the moulds and would shrink away from the mould as it dried. Clay would not adhere to the mould. Moulds are generally in two pieces, especially for the chambers of stirrup spout and double chambered whistling vessels.

One piece moulds can be used to make two identical halves of an object, but two piece moulds enabled two halves of an object to be joined while still in their moulds, and smoothed together without warping the vessel.



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STIRRUP POT FORMATION 14A

Coiling

This technique was used in conjunction with moulding to produce stirrup vessels and spout and handle jars, both to close the tops and to join the handles and spouts to the body of the vessel. Coils were also used to form flaring rims and collars on bowls and cooking pots. Almost all large storage vessels were made by this method.

Modelling

Modelling was used in order to elaborate and add detail to an object and also to make solid handles.

Stamping

Stamps were made of fired clay which had been formed over fired clay matrixes, or over objects such as sea shells, peanuts or ears of corn. Two different stamps are never found on a single pot, and stamped symetrically. Usually the stamp was placed against the outer surface of the pot while the clay was still soft. Then the potter reached inside and pushed the wall of the pot into the stamp. Alternatively, moist clay could be pressed into a stamp and then pressing the stamp against the wall of the vessel, the clay inside the stamp would remain attached when the stamp was taken away. By the latter method stamping could be carried out at a relatively late stage of manufacture, especially on stirrup spout bottles. To prevent air pockets forming between the clay impression and the wall of the vessel causing an explosion when the pot was fired, deep holes could be punched into the clay impression. Incision and excision techniques were occasionally used.

Smoothing

The finished pot would probably have been smoothed and burnished with the kind of potters tools used elsewhere in the world in low technology pottery; maize cobs, smooth pebbles, ribs of bone or wood, cloths or leather and pieces of calabash or small stone hatchets.

Painting

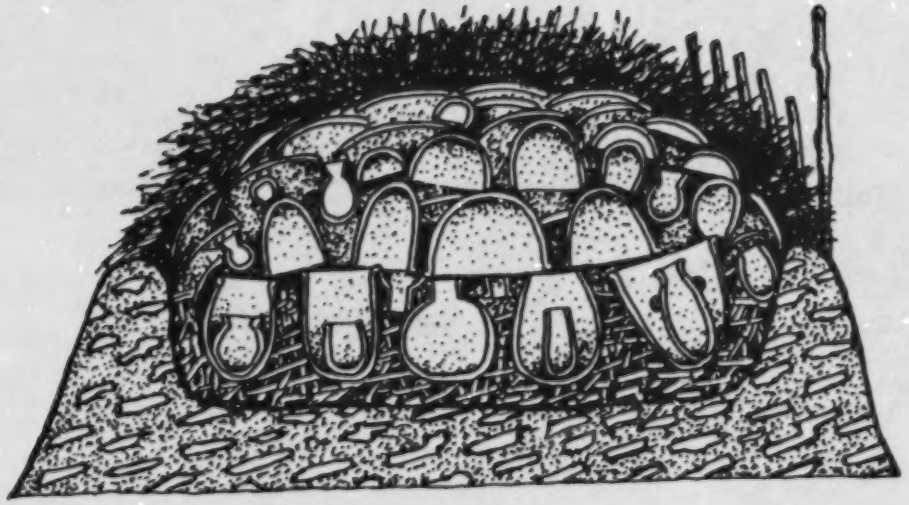
Most pre-Colombian pottery was covered with a slip of mineral composition, which also served as water proofing. Moche potters used only red and white slips, whereas the Nazca employed up to twelve colours. Organic black pigment was sometimes painted on after firing to add detail to designs.
No glazes were used in Peru before the Spanish conquest. Burnishing the leather hard pot was a common way of giving a highly polished effect (cf Ashanti and Hausa Pottery Pack). Some lustred pottery has a slightly metallic aspect, in colours of predominantly steel grey, dark brown, green or maroon: this is known as plumbate ware. In these cases the slip was a clay containing a high proportion of iron and aluminium, and of unusual thermal properties. Raised to a certain atmosphere in a reducing atmosphere it vitrifies and produces a naturally effected glaze.

Firing

Bonfire firings were probably used much as they are today in Peru. The firing area would first have been covered with fuel (wood, grass or dried dung) and pots stacked upon it. The pile would be covered with more fuel, and dampened dung placed over the top before lighting the pile.

SIMBILA FIRING MOUND

The Simbila firing mound shown here in cross-section is generally 1.2 to 1.5m. high and 3.6m. in diameter, with a 60cm depression scooped in the top. Over a layer of ashes from previous firings, a layer of wooden sticks is spread on which the pots are arranged. Shards, old straw animal dung and any old refuse are used to top the mound.



Black Ware Pottery (Chimu and Moche)

This may have been produced, as in Africa, by removing the red hot pots from the fire and plunging them into a bed of leaves or other material. These would begin to smoke and deposit throughout the pottery finely divided carbon, which, when the pot was cooled, produces the characteristic 'black ware'

Organic black pigment found on some pottery was added after firing to produce greater elaboration and detail.

MODERN PERUVIAN FOLK POTTERY

What happened to the potters art with the advent of Spanish rule in Peru, and whether or not indigenous craft traditions were completely wiped out, are questions which have not been answered accurately until fairly recently when Gertrude Litto undertook the task of travelling throughout the region and documenting the methods and products of contemporary potters. Her results are published in a book called 'South American Folk Pottery'.

Potting is a seasonal occupation in many areas of Peru for those whose main livelihood is farming, but gradually the craft is being eroded by modern pressures. More easily available aluminium and plastic ware is gradually diminishing the need for pottery. In the markets, commercial products are replacing craft ware. Many children of potters see no future in their traditional family trade, and move to the towns. Rural people, too, are intrigued by new lightweight and colouful plastics and aluminium pots that will not break.

Nevertheless, the folk potter can still sell his wares for less than the price of the commercially made goods. Chocha (the traditional beverage made from maize) will only be made in traditional ceramic vessels, as it is considered that the clay gives the drink its characteristic flavour. Also many consider that only clay water containers and distillers keep water pure and cool, and many traditional dishes taste their best when cooked in the traditional utensils.

A north coast pottery method

Simbila is 200 km. south of Moche. Pottery there is still passed on from father to son, using only handbuilding with only a paddle and stone for tools (no moulds are used). Pottery is a seasonal activity, for most potters are farmers, and the pottery season lasts from August to December. The rainy season falls from December until March and then from March onwards there is a season of sea fogs, misty air and cloudy skies which makes drying pots impossible.

Pottery made at Simbila includes many large forms similar to ancient pottery, for example, cantaros for water and chicha storage, large tinajones for preparing chicha and large wash basins.

Clay is brought in on mule back from nearby haciendas, and tempered with river sand. It is broken up into chunks and slaked in old clay pots for several days, then scooped out and mixed with sand, kneading is done by foot. The working mixture is approximately one part sand to three parts of clay.

The tools used are a hand sized paddle of alagarroba wood and a large smooth river stone. The potter pounds a depression in the clay and raises the pot walls. When these are firm, a coiling technique is used to build the remainder of the pot, still pounding with the paddle and stone. A wet rag is used to form rims and to smooth the surface. At this stage handles are formed and pressed in,

Modern potters tools

Designs are stamped on the pot, using the pounding stone to hold the inside of the pot wall steady. Stamps are made from fired clay.

Small pots are hollowed and turned in the hand.

The leather hard dried pots are covered with a yellow slip called lustre amalgre, by women. Rich in iron oxide, this slip enables the fired pots to emerge uniformly pink.

Firing is done by the bonfire method (see drawing), using old straw, wood, animal dung etc., and lasts up to twelve hours.

South coast of Peru

All along the south coast of Peru no pottery is made today.

Altiplano

The altiplano, a plain plateau extending towards Lake Titicaca is inhabited by subsistence farmers, with herds of alpaca, sheep and llamas, who also weave and make pottery seasonally. Any excess produce they sell in order to obtain products which they cannot produce themselves such as sugar and needles.

At Machacmara, potters make crudely fashioned braziers, stoves, pitchers and small cooking pots, in an unusual pale cream colour with red slip line decoration.
The two burner 30.5cm. high clay stove is used in most alto home kitchens. The stove is partially buried in a dirt mound on the earthen floor of the cooking area, so that only the top and the arched area at the front where fuel is fed would normally be visible.

Pottery is mainly mens' work although many women also make pots.

Clay is mined from beds in the hills, dried on burlap and ground to pieces. Red sandstone is used to temper the clay, and is brought from a nearby village.

Forming tools are few, wooden ribs to smooth and form the pots, together with 'poco' (elsewhere called 'molde') turntables of fired clay to support and turn the pots during the forming process.

The poco consists of a flat clay disc 2cm. thick fused to a short flaring cylinder 2.5cm. high and 7.5cm in diameter.

Two burner stove

56

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MACHACMARA FORMING PROCESS

19A

SPANISH INFLUENCES ON POTTERY

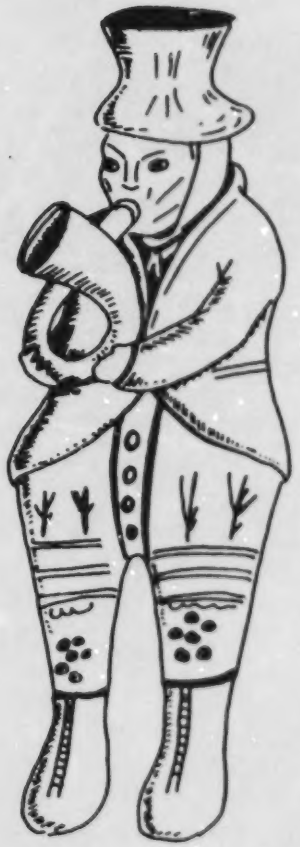
Pucara is the only community in Peru where the Spaniards succeeded in introducing the potters wheel, albeit of a very crude design, and also where the only other main areas of Spanish influence on pottery in Peru are to be found.

Kilns are used at Pucara, especially as lead glazes are used (called esconia or slag), made from the slag left over from depleted silver mines after they had been abandoned by the Spanish.

The other main Spanish legacy to pottery methods in Peru is 'sprig moulding', which again was limited to Pucara. This is a technique whereby a small shallow mould is made by pressing a ball of clay to a small sculptured form such as a leaf or carved rosette. This hollow moulded impression is allowed to dry and then used as it is, or fired. A small ball of clay is then pressed back into the mould and removed. Clay slip is smeared on the back of the sprigged design and it is applied to the pot.

Another interesting facet of Spanish influence is the introduction to Peru in the 1500's of bulls and oxen in the altiplano. These made a tremendous impact on the Indians due to their great size and strength, and the bull became a symbol of life and virility.

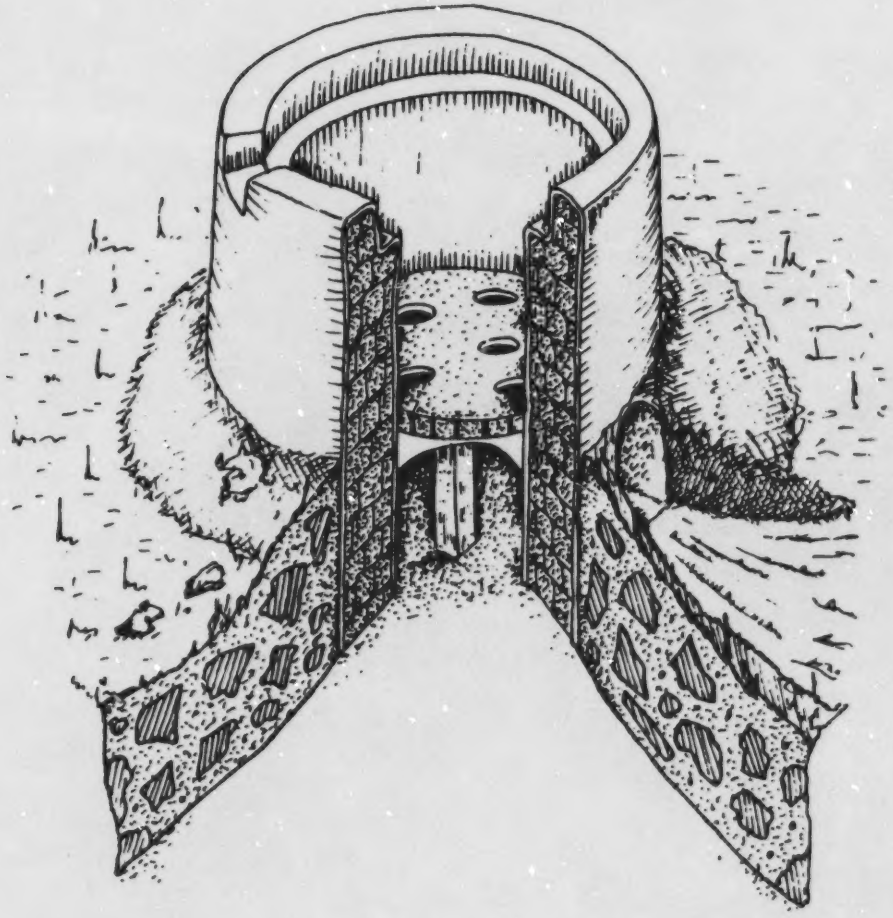
The traditional Pucara bull is a hollow vessel with an opening and handle, and is still made in a village just outside Pucara.



Modern musician figure bottle

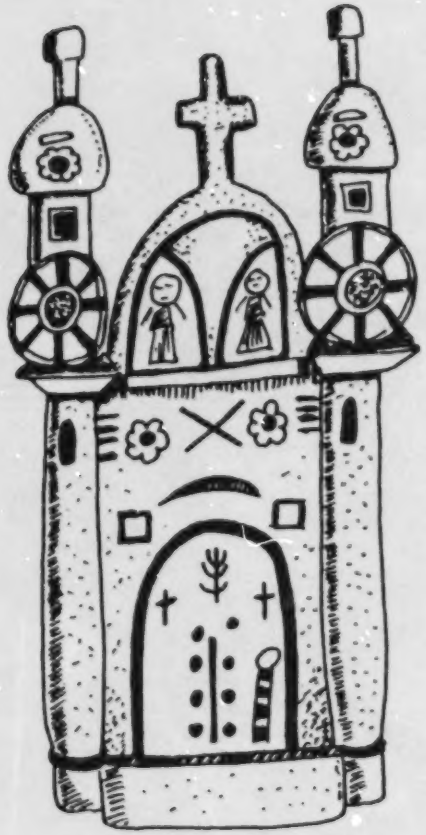
PUCARA KILN

This cutaway drawing shows the structure of a simple updraft kiln. Made of adobe bricks and covered with more adobe. Columns of brick support a perforated brick floor arched on its underside. The combustion chamber is sunk .5 to 1m. below ground level, a large pit is dug in front of the fire port to permit access during firing. Ware is loaded through the top. A niche in the wall provides easier access to the firing chamber which measures about 1.2m. in diameter and about 1m. deep



Ayacucho in the altiplano produces a variety of Spanish and traditionally influenced wares: clay churches and other architectural pieces, figure bottles made to drink from at weddings, including mother-in-law pots, magic figures, nativity scenes and crucifixes.

In all pottery centres a certain amount of crude ware is produced aimed at the tourist market. This is similar to such wares produced all over the world, and includes very crude copies of pre-Columbian pottery.



Modern clay church

APPENDIX ONE

FOOD

Basic Peruvian Foods

Maize: eaten boiled as corn on the cob. It is also used to make corn oil, and fermented to make a beer called chicha. Corn is also roasted and popped.

Potatoes: staple crop. Usually boiled in their skins and eaten at most meals.

Beans: eaten roasted. Also made into a hot drink called 'ponche'.

Quinoa: a kind of rice made into a porridge, which is eaten hot. Abundant in protein. Also used in combination a with maize for a type of chicha.

Cabbage: eaten boiled, usually served with beef or mutton.

Barley: brewed in cities to make beer.

Meats: chicken, mutton, guinea pig.

Eggs.

Fish: eaten on the coasts.

Other foods include peanuts, cucumbers, sweet peppers, chillies, sweet manioc (flour), tomatoes and sweet potatoes.

Maize

Quinoa

Potatoes

Peruvian Potatoes with tomatoes and maize (serves four)

500g potatoes	sweetcorn
2 or 3 large tomatoes	a large onion
25g fat (lard or oil)	salt and pepper

Peel potatoes and place in boiling salted water, simmer until tender. Heat fat and cook chopped onion until transparent. Add sweetcorn, chopped tomatoes and seasoning. Cook on a low heat until potatoes are soft. When potatoes are ready drain and serve with the prepared sauce.

Seviche

4 thin fillets white fish	1 onion
1 large lemon	1 large tomato
1 small green pepper	1 clove garlic
1 small red pepper	5ml chilli powder
2 tbsp vinegar	salt, pepper and sugar

Arrange fish fillets on a dish and sqeeze lemon juice over them. Leave dish in fridge for 6 - 7 hours until tender. Wash and chop tomato and peppers. Chop onion and crush garlic. Mix with chilli and add vinegar, salt, pepper and sugar. Drain fish and spoon vegetable mixture over them. Serve with a green salad.

Cabbage

Barley

Beans

APPENDIX TWO

RESOURCE MATERIAL

Slides and Filmstrips

Close-ups of Andean People. London, VCOAD, 1974
Part 1 Men at work and women at work
Part 2 Young people
two slide sets of 24 slides each, colour, with notes.

Inca Achievement in Art and Science. London, Encyclopaedia Britannica, 1966 (Ancient South American Indian Civilisations)
Filmstrips in colour with notes.
From: EFVA, Paxton Place, Gipsy Road, London SE27.

The Inca Civilisation. London, Slide Centre, 1970
Junior History Series (S271)
Slideset. 16 slides, colour, with notes.

Incas and their way of life. London, Encyclopaedia Britannica, 1966 (Ancient South American Indian Civilisations)
Filmstrip, colour, with notes.
From: EFVA (as above)

Journey of Conquest of Francisco Pizarro from 1531 - 1533
London Slide Centre (Journeys of exploration and conquest) (6619).

Life in Ancient America. M. Neurath, Harlow, Common Ground. (Life in Ancient Times)
Filmstrip, colour, with notes.
ISBN 0-7056-0708-1

Peru: in the shadow of the Incas. Nicholas Nye, Surrey, Audio Visual Productions (918/5)
Slideset, 18 slides, colour, with notes.

Pizarro. London, Encyclopaedia Britannica, 1960
(Spanish explorers of the New World)
Filmstrip, 33 frames, colour, with notes.
EFVA

Film

Disappearing World series: Peru: the Quecha.
Hire from RAI Film Library through the Scottish Film Library, 16 Woodside Terrace, Glasgow, G3 7XN.

Teaching Pack

Peru: the Quecha. Land and People series.
Basil Blackwell, Oxford, 1978/Royal Anthropological Institute/ILEA.

Includes core book, 4 case studies, study guide, 24 colour slides, teachers guide. Audio cassette available.

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Donnan, Cristopher. Moche Ceramic Technology.

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A larger bibliography is available from: Pottery Cultures Project, School of Art Education, Birmingham Polytechnic, Margaret Street, Birmingham, B3 3BX.

APPENDIX THREE
WORKSHOP SECTION

Two main stages in making a stirrup pot.
1 - 4, making an earthenware mould.
5 - 12, making a pot using the mould.

1. One way of starting is to make a solid clay former and shape the two mould halves on it. Moulds can be taken off other objects too.

2. Pressing the clay onto the bone-dry former to make the two mould halves.

3. Splitting the mould into halves.

4. The two finshed mould halves; these are then fired to earthenware.

5. Pressing the clay into the mould halves using small pieces of clay and plenty of pressure.

6. The two mould halves filled.

7. The mould joined and held together with strong rubber bands. The clay can now be joined and finished on the inside. Allow it to dry sufficiently for it to be removed from the mould, but not too dry for the addition of the coiled top.

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8. Coiling the top of the pot.

9. Finishing the coiled top and sealing.

10 a+b. Using slabbed clay and wooden formers to make the stirrup.

11. Gently bending the stirrup into shape.

12. Placing and fixing the stirrup over two holes made in the top of the pot.
Finally the pot can be burnished / &

Finally the pot can be burnished &/or decorated.

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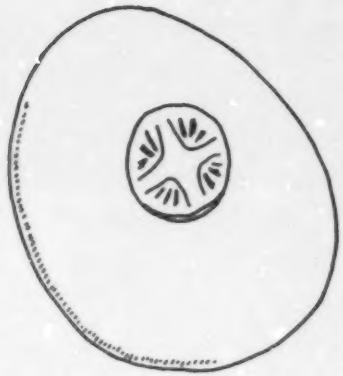

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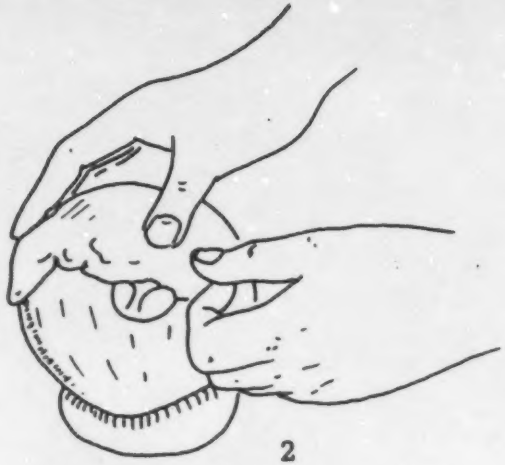

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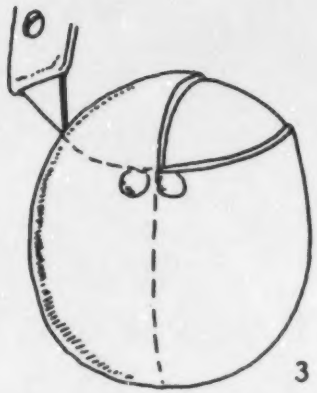

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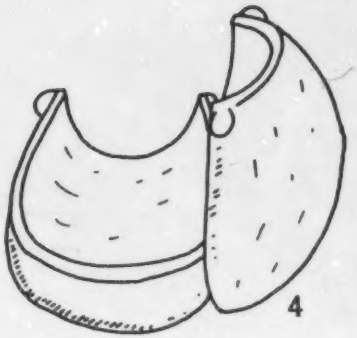

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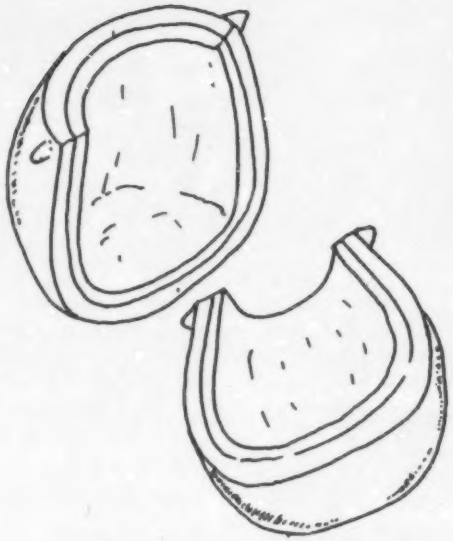

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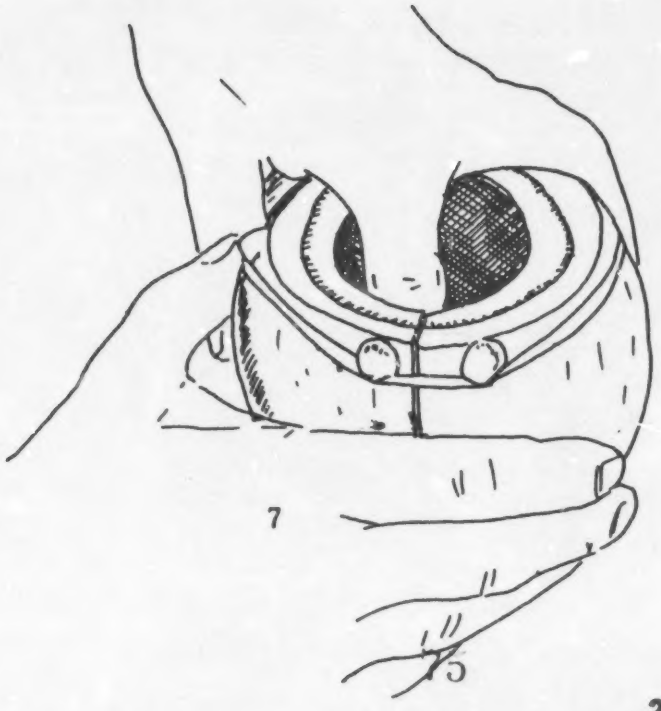

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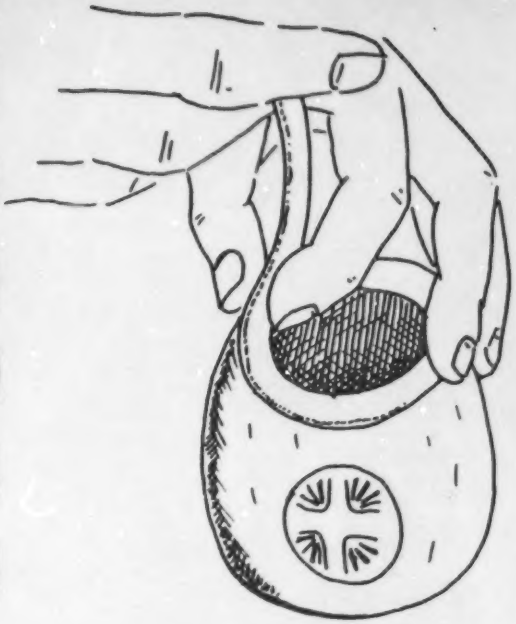

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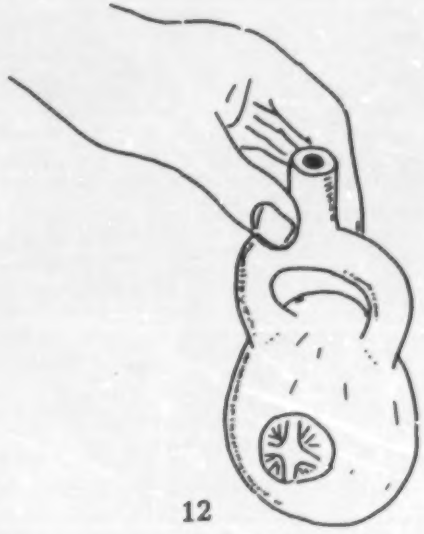

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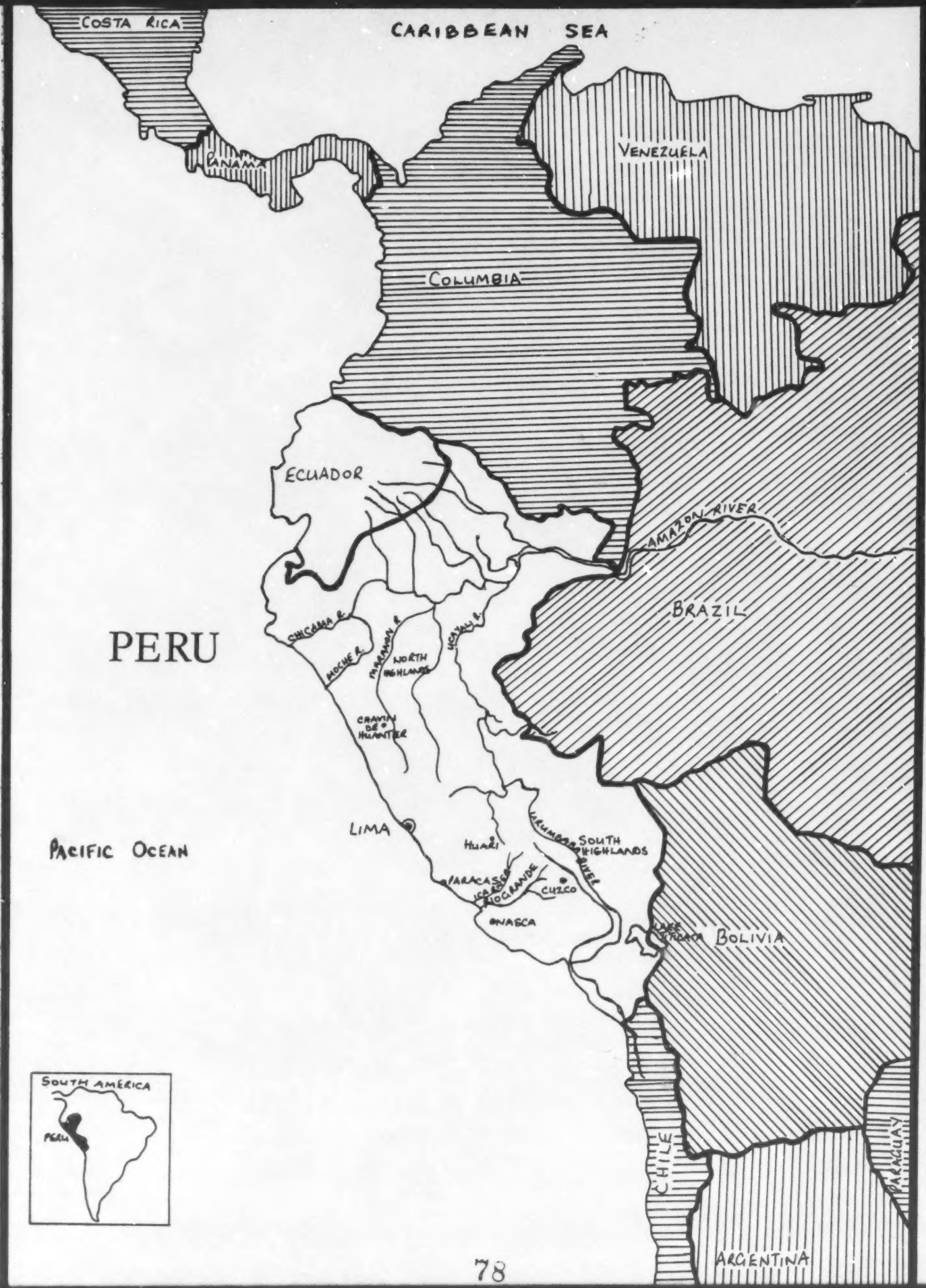
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CARIBBEAN SEA
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VENEZUELA
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MOCHE R.
MARANON R.
NORTH HIGHLANDS
UCAYALI R.
CRAMIN DE HUANTER
LIMA
PACIFIC OCEAN
HUARI
URUMBAMBA RIVER
SOUTH HIGHLANDS
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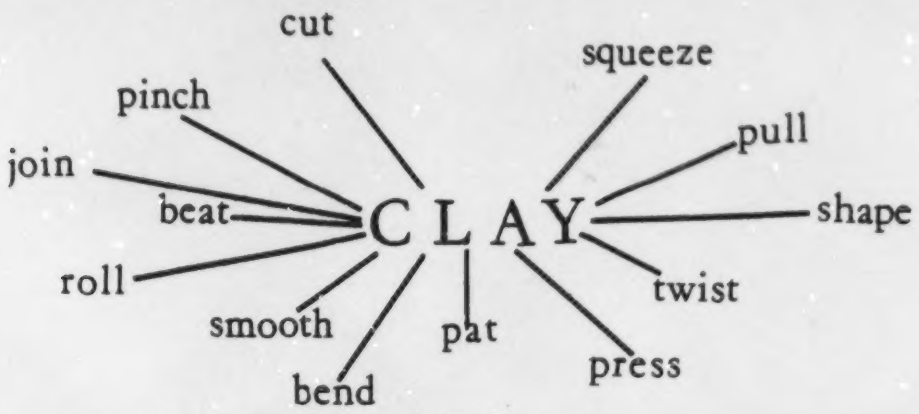
WORKSHEET (A)



(A) PINCH POTS

1. Roll your clay into a ball the size of a small apple.
2. Hold the ball in one hand and press the thumb of the other hand into the centre.

You now have a pot

- but it has thick walls.

3. To make the walls thinner pinch them between your fingers and thumb, slowly and gently, turning the pot a little after each pinch.

4. Pinch and turn, pinch and turn, until your pot is the size you want.

When you have finished your pot think about painting and decorating it. You might like to add handles.

(A)

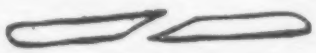
(B) COIL POTS

1.Flatten a piece of clay with a rolling pin or a bottle.Draw a circle onto the clay,and cut it out.This is the base of your pot.

BEST COPY AVAILABLE

2.Put this to one side,then take some more clay and roll it into "sausage shapes. DO NOT MAKE THESE COILS TOO THIN.

3.When you have made a coil put it onto the base of your pot.Press the inside of the coil onto the base.



Join

4.Go round and round adding coil on top of coil. Press each layer together.

Coils

ONLY ADD TWO OR THREE COILS AT ONCE OR YOUR POT WILL COLLAPSE BAFORE IT IS FINISHED.

Base

(C) FIGURES

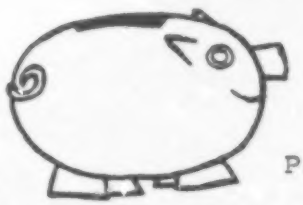
You can make many figures with clay - but do not make your figure too tall or it will fall over.

IDEA:-Moneybox.

1.Roll your clay into a ball,split it in half and empty out some clay from each half.
2.Join the 2 halves,then make a slot big enough for coins to fit through.
3.When your shape is finished you can draw on it,or add other pieces of clay to make it into something special.

Clown moneybox

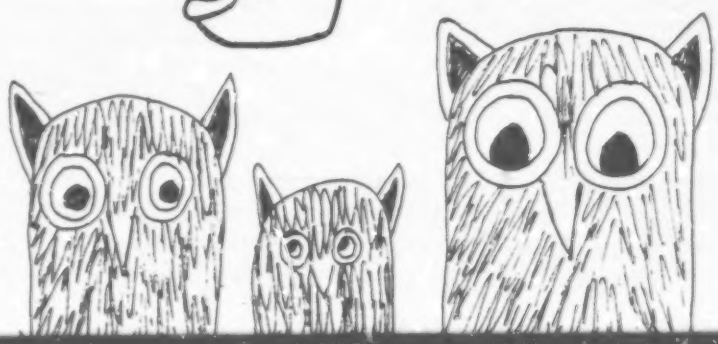
Cat moneybox



Pig moneybox

IDEA:-Owl ornament.

1.Roll your clay into a very thick sausage,rounded at one end and flat at the other.
2.Use other pieces of clay to make the eyes,ears and nose of an owl.
3.Draw in the feathers with a fine pencil point.

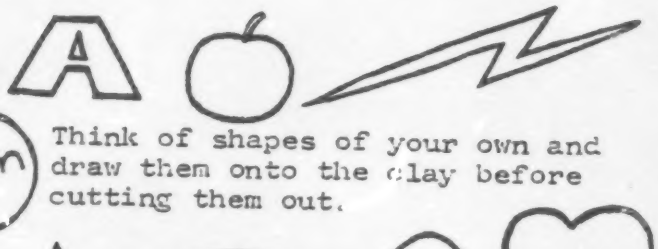


(D) JEWELLERY

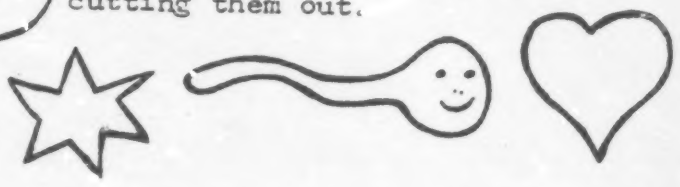
(A)

Badges:-

1. Roll your clay flat and cut it into whatever shape you want your badge to be. Look at these ideas:-



Think of shapes of your own and draw them onto the clay before cutting them out.



2. After you have cut your shape out you can then paint and decorate it.

3. When it is dry, glue the pin to the back of your badge.

Pendants:-

1. Make shapes as for the badges, but before the clay dries make a hole for the string, chain or thong. Look at these pendants:-

Necklaces and Bracelets:-

1. Cut out lots of rings - but not too thin or they will crack.

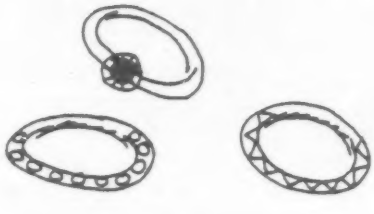
2. When they are dry paint them and thread them together.

3. Try other shapes - try mixing shapes.

BEFORE THREADING THE BEADS TOGETHER MAKE SURE THAT THE STRING WILL GO OVER YOUR HEAD OR YOUR WRIST.

Rings:-

1. Roll a sausage of clay for your finger.
2. Remember to make it slightly too big as the clay will shrink as it dries.



3. Draw patterns onto the wet clay, or push colourful glass beads into the clay.
4. Maybe you could paint the ring when it is dry.

You could make bracelets in the same way as rings - but make sure that it will go over the widest part of your hand.

Tiles, tea-pot stands place mats, coasters etc.

(A)

Bird drawn onto wet clay.

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Patterns made by pressing string into wet clay.

Picture made with clay pelletts. Draw your picture and arrange little pelletts inside the lines, then press them flat using a rolling pin or bottle.

Use sausage shaped pieces of clay for the features of a face.

Shapes cut out of flat circle of clay.

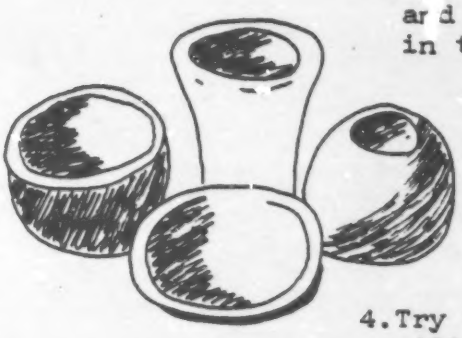
WORKSHEET (B)

(A) PINCH POTS

1. Shape a piece of clay into an apple-sized, smooth sphere. Cradle it in the palm of one hand and press the thumb of the other hand deep into the centre.

2. To thin out the walls of your pot use the thumb and finger of one hand whilst turning the pot in the palm of the other hand.

3. Don't work too quickly. The clay must be eased gradually and gently to the desired thickness.



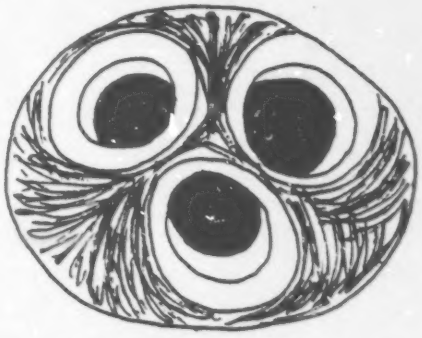
Simple pinch pots.

4. Try to develope a rhythm. A smooth, steady rhythm will give your pot a simple symmetrical form, and make it stronger.

5. If a crack appears smooth it over with a moist finger or cloth.

6. Begin to experiment with thinner shapes.

Very thinly pinched clay grows naturally into flower-like and petal-like shapes.



Two pinch-pots fastened together with cut out shapes and decoration.

7. You could also experiment with different tensions in the palm holding the clay. An open palm will form a shallow shape and a tighter palm a narrow shape. A palm pulled almost close will produce a thin tube-like shape.

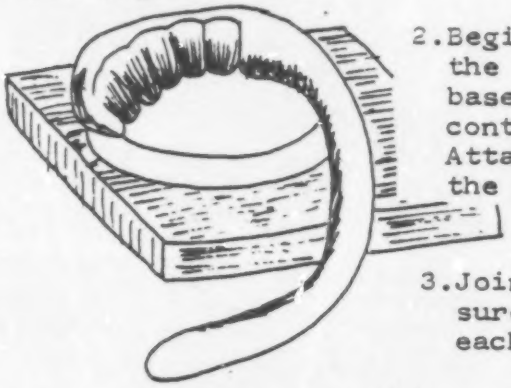
Another double pinch-pot.

Double pinch-pots can be used to make money-boxes, with a slit cut in for the money to pass through, and features added with other bits of clay.

(B) COIL POTS

(B)

1.Make a flat clay base for your pot and start rolling out coils.

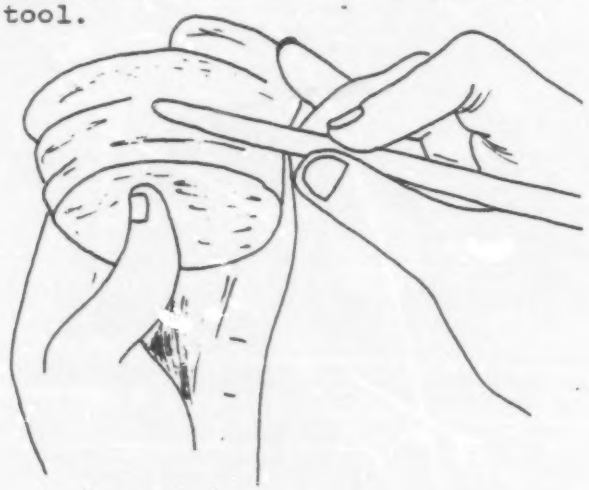


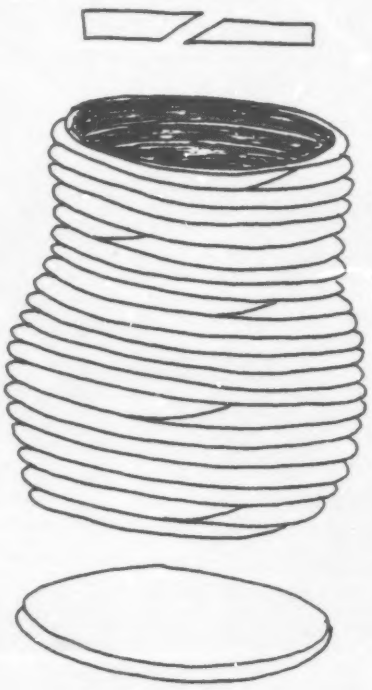
2.Begin to build up your coils onto the base.Press the inside edge of the first coil down onto the base.When this first coil has completed a circle continue along the top of this first layer. Attach the second layer to the first by smearing the inside edge down onto the coil beneath.

3.Join the coils together by tapering the ends.Make sure that the joins do not come into line with each other as this will produce a weak spot.

4.Do not attempt to build up too many coils in one lesson.There is a risk of the lower coils sagging if they cannot bear the weight.

5.The outside of the coils can be joined with a modelling tool.





(C) FIGURES

If you want explore the possibilities of shape,pose and variety of detail try modelling a figure.

Human figures:-Pick a theme for your model.If the whole group picks a common theme the different results and methods used can later be compared and discussed.

Animal figures:-Again a theme could be chosen.Or you could experiment with the different ways of manipulating the medium.Look at the sketch of a clay lion by Fernando Abranches.He has used pellets of clay,arranged,then pressed flat with a rolling pin,for the lion's mane and whiskers and the hair on its paws and tail.

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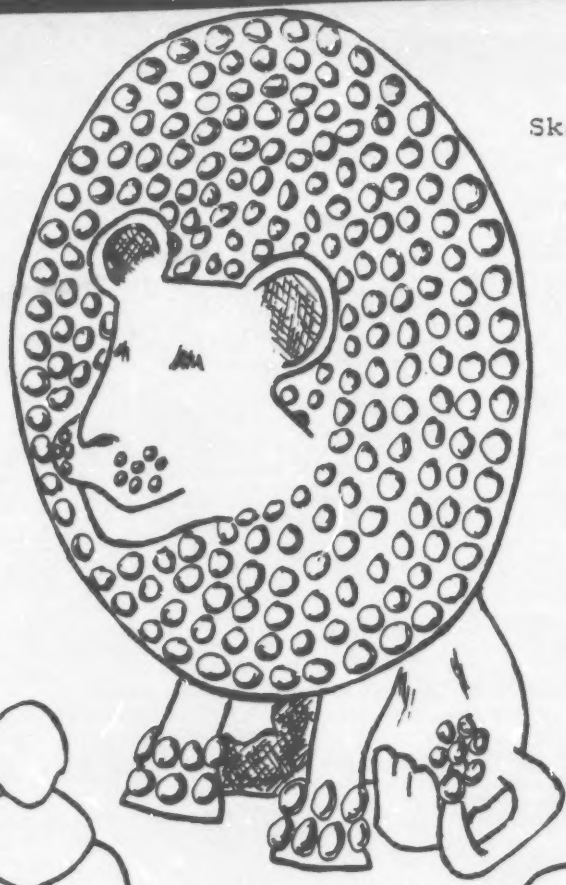
(B)



Sketch after a clay lion

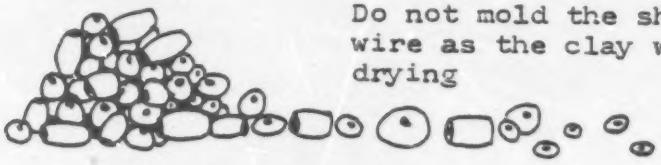
by Fernando Abranches.

Variations on the theme
"CONVERSATIONS BETWEEN TWO"
(After examples from 'Art Teaching
in African Schools' - George Talabi)

(D) JEWELLERY

(B)

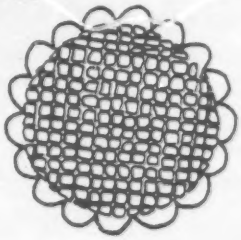
Beads:-Decide on the shape and size of beads that you want.Form the shapes on a piece of wire or a Knitting needle,checking that the gauge is correct before you start.



Do not mold the shapes too tightly to the wire as the clay will shrink a little in drying

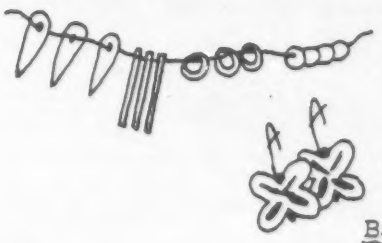
When the clay is dry the beads can be slipped off the wire and painted/varnished.

Pendants,brooches and badges:-
Roll out a flat piece of clay,draw your chosen design on to it,cut it out and decorate it.



If you are making a pendant remember to make a hole for the chain before the clay dries.If you are making a badge or brooch the pin should be glued to the back after the clay is dry and decorated.

Bracelets,necklaces and ear-rings:-



These can be made with small pendant-like shapes or with beads.Clips and wire fittings for pierced ears can be bought.

Bangles and rings:-

These can be made by simply rolling out a sausage shape and joining the ends. Remember that the clay will shrink slightly in drying,so make rings fit loosely over your knuckles,and bangles big enough to slip over the widest part of your hand.